

### AMENDMENTS TO THE CLAIMS

Please amend the claims as follows.

1 - 8. (Cancelled)

9. (Currently Amended) A process of selectively hydrogenating acetylenic compounds comprising contacting said acetylenic compounds with a catalyst ~~according to claim 1~~ in a reaction zone in the presence of hydrogen under conditions of temperature and pressure to at least partially hydrogenate said acetylenic compounds to the corresponding compounds having less unsaturation than said acetylenic compounds, wherein the catalyst comprises Ni deposited on a porous support having more than about 60% of the Ni deposited on the outer periphery of said porous support.

10. (Original) The process according to claim 9 wherein acetylenic compounds are present in mixed streams of  $C_2$ - $C_{12}$  hydrocarbons.

11. (Original) The process according to claim 10 wherein a minimum amount of hydrogen present is no less than 50 mole % of the concentration of the total acetylenic compounds present.

12. (Original) The process according to claim 10 wherein said catalyst is present in at least two reaction zones.

13. (Currently Amended) A process of selectively hydrogenating acetylenic compounds comprising contacting said acetylenic compounds with a catalyst ~~according to claim 2~~ in the presence of hydrogen under conditions of temperature and pressure to at least partially hydrogenate said acetylenic compounds to the corresponding compounds having less unsaturation than said acetylenic compounds, wherein the catalyst comprises Ni deposited on

a porous support having more than about 60% of the Ni deposited on the outer periphery of said porous support, and wherein the catalyst comprises one or more elements selected from the group consisting of Cu, Pd, Re, Zn, Mg, Mo or Bi.

14. (Original) The process according to claim 13 wherein acetylenic compounds are present in mixed streams of C<sub>2</sub>-C<sub>12</sub> hydrocarbons.
15. (Original) The process according to claim 14 wherein a minimum amount of hydrogen present is no less than 50 mole % of the concentration of the total acetylenic compounds present.
16. (Original) The process according to claim 14 wherein said catalyst is present in at least two reaction zones.
- 17 - 21. (Cancelled)